DOCUMENT RESUME

ED 176 040 CE 021 803

AUTHOR Gardner, David C.; Beatty, Grace Joely
TITLE Vocational Curriculum Development for the Handicapped. What Motivates Teachers to Participate?
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
BUREAU NO 498AH70309
PUB DATE 23 Feb 79
NOTE 19p.; Paper presented at the Eastern Educational Research Association Annual Convention (Kiawah Island, South Carolina, February 23, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Comparative Analysis; *Curriculum Development; *Educational Change; *Educational Innovation; *Handicapped Students; Motivation; *Teacher Attitudes; *Teacher Participation; Vocational Education

ABSTRACT

A pilot study was conducted to investigate the relationship between preferred incentives for participation in curriculum projects and the change orientation of teachers. The subjects were 96 teachers from a Northern New England community. The "Teacher Opinion Survey" on preferred incentives was found to have a test-retest reliability of .98 and internal consistency of .91. "Knowing that a project will help our students" and "believing the curriculum needs change" were preferred incentives as opposed to "recognition" for their efforts. A modified form of a change orientation scale was found to have an internal consistency of .88 and acceptable item to total score correlations. Analysis of variance of "change orientation" found differences by subject area taught but not by age or sex. Comparisons of those in the upper and lower thirds on change orientation revealed significant differences on three preferred incentives. (Author/JH)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED176040

VOCATIONAL CURRICULUM DEVELOPMENT FOR THE HANDICAPPED: WHAT MOTIVATES TEACHERS TO PARTICIPATE?[1, 2]

David C. Gardner and Grace Joely Beatty

Boston University

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

VT

CE021803

[1]This pilot study was funded in part by a grant from the U.S. Office of Education, Department of Health, Education and Welfare (Project No. 498AH70309). The opinions expressed herein do not necessarily reflect the position or policy of the U. S. Office of Education, and no official endorsement by the U.S. Office of Education should be inferred.

[2]Paper presented at the Annual Convention of the Eastern Educational Research Association, Kiawah Island, South Carolina, February 23,1979.

DO NOT FILM THIS PAGE

Vocational Curriculum Development for the Handicapped: What Motivates Teachers to Participate?

David C. Gardner and Grace Joely Beatty
Boston University

ABSTRACT

This pilot study investigated the relationship between preferred incentives for participation in curriculum projects and the change orientation of teachers.

The Teacher Opinion Survey on preferred incentives was found to have a test-retest reliability of .98 and internal consistency of .91. "Knowing that a project will help own students" and "believing the curriculum needs change" were preferred incentives as opposed to "recognition" for their efforts.

A modified form of a change orientation scale (Russell, 1975) was found to have an internal consistency of .88 and acceptable item to total score correlations. Analysis of variance on "change orientation" found differences by subject area taught but not by age or sex.

Comparisons of those in the upper and lower thirds on change orientation revealed significant differences on three preferred incentives.

DO NOT FILM THIS PAGE

Mainstreaming of students with special learning problems is a reality in vocational education today (Cowan, 1978). A keystone to successful mainstreaming is the provision of appropriate academic and technical support for students when they encounter difficulties in their vocational programs. As a response to this need, Project HIRE is concerned with the development of individualized curriculum materials to help the special education/resource room teacher provide appropriate support to the student who encounters learning problems in vocational subjects.

Project HIRE, working with interdisciplinary teams of vocational education teachers, special education teachers, and university specialists, has developed and is currently field testing five sets of materials to teach the technical vocabulary required for entry level jobs in Allied Health, Arc Welding, Culinary Arts, Graphic Arts, and Upholstery. In addition, the project is currently evaluating management procedures as part of the on-going curriculum development process (Gardner and Cowan, 1978).

The purpose of this pilot study was to determine, within the context of the project's objectives, the relationship between various incentives which may be used in any curriculum development project to encourage teachers to participate and the change orientation of teachers. Also of interest was determining subject area differences among teachers on preferred incentives/change orientation.

Method

Subjects were 96 teachers from a Northern New England community high school. The school system was interested in developing a two year in-service program for high school personnel to improve the mainstreaming program. The

DO NOT FILM THIS PAGE

mean age of the participating teachers was 36.1 years (s.d. = 9.8) median age 32, mode 30. Sex data was available on 81 of the 96 teachers (30 females, 51 males).

In addition to the demographic data collected, the instruments discussed below were administered to the teachers by the school officials. Test administrators were given training by the authors and appropriate consent procedures were established by school officials.

PREFERRED INCENTIVE SCALE (Teacher Opinion Survey)

This pilot instrument (Appendix A) was developed to determine patterns of preferences for specific incentives by teachers to participate in school/curriculum projects. The instrument consists of 10 separate scales. Each scale is equal interval appearing (Kerlinger, p. 547) and the range is from 1 = most important, to 10 = least important. For each item, teachers are asked to indicate their degree of preference for the stated incentive to participate in curriculum projects. For instance, one possible incentive for teachers to become involved would be "released time." This is one of the stimulus items on the instrument. Test-retest reliability on the scale was found to be .98 (rho) (N=51) with a one week internal.

CHANGE ORIENTATION SCALE (Teacher Survey: Vocational/Career Education for Handicapped).

The twenty item instrument used in this study is a modification of a twenty-one item instrument designed by Russell (1975) to measure:

> ...the change orientation of teachers in order to identify potential innovators and to identify teachers who are most receptive to change (p. 43).

The author reports a Kuder-Richardson Formula 8 reliability coefficient of .91. The 21 items were identified from a factor analysis pool of over 2000.

For construct validity the author reports that teachers who had high scores on this change orientation scale were less dogmatic, less conservative and more cosmopolitan in their points of view than low scorers.

The following modifications were made in the instrument to meet the needs of the proposed assessment for in-service training for mainstreaming handicapped students. On items 2 and 3 the word "handicapped" was substituted for the word "disadvantaged." The word "career" was placed in front of the word "vocational" on these same items. Item 13 was eliminated as unrelated to the purposes of the needs assessment and the planned purposes for using the instrument. Items 14 to 21 were renumbered, in sequence, as 13-20. Using the new numbers for identification purposes, the following changes were made. For items 15, 16, 17, 18, 20, the word "interdisciplinary" was substituted for the word "differentiated." The original scaling format was changed from a range of 1 to 6 on each item to range of 0 to 100 (on a one hundred millimeter line) using procedures suggested by Carifio (1976). Items 1, 2, 3, 4, 8, 10, 14, 15, 17, 18 and 20 are scored in reverse.

Results and Discussion.

Change Orientation Scale

An internal consistency coefficient (alpha) was computed for the modified version. The resulting coefficient was found to be consistent with that reported by Russell (1975) on the original scale ($r = .88$). Table 1 reports the item analysis for the change orientation scale and compares the resulting coefficients with those reported by Russell (1975) on the original scale.

DO NOT FOLD THIS PAGE

TABLE 1

CHANGE ORIENTATION SCALE

Teacher Survey

Vocational/Career Education for Handicapped

Item/Total Score Correlations for Original Scale
(E.B. Russell, 1975) and Modified Scale

ITEM NUMBER Modified Scale	r	ITEM NUMBER Original Scale	r
1.	.26	1	.40
2.	.41	2	.56
3.	.37	3	.50
4.	.39	4	.61
5.	.33	5	.59
6.	.49	6	.61
7.	.60	7	.57
8.	.32	8	.59
9.	.43	9	.61
10.	.34	10	.55
11.	.47	11	.58
12.	.43	12	.63
13.	.58	14	.64
14.	.54	15	.56
15.	.56	16	.66
16.	.62	17	.60
17.	.55	18	.60
18.	.72	19	.64
19.	.66	20	.58
20.	.63	21	.61

NOTE: All correlations are significant at the $p < .05$ level.

The minimum acceptable item/total score correlation for a 20 item test (Guilford & Fruchter, 1978) is .22. All correlations on the modified scale were found to be acceptable (see Table 1) and are consistent with the item correlations reported for the original scale (Russell, 1975).

No significant sex differences were found on the modified form (F = .13,NS). Also, comparisons were made by subject area taught. Table 2 reports the means and standard deviations of the sample by subject area taught in rank order of the mean change orientation of the subject area groups.

TABLE 2

Means and Standard Deviations by Teacher Subject Area on Change Orientation Scale

N = 78

Subject Area	N	Percent Sample	Mean	S.D.	Rank
* Pupil Services	8	10	1639.38	203.03	1
Occ/Voc Ed.	20	26	1316.95	331.67	2
Science/Math	10	13	1309.60	235.24	3
Language Arts	18	23	1286.56	231.57	4
Social Studies	10	13	1239.80	177.17	5
** Other	12	15	1238.83	171.11	6

Scores may range from 0 to 2000. High score indicates "more change orientation."

* Guidance and special education personnel.

** Physical education, driver education, art, and music personnel.

Table 3, on the next page, reports the results of a one-way analysis of variance of the sample on the change orientation scale by subject taught. There was a significant F (3.215,$p < .01$) for the main effect (subject area taught.

DO NOT FOLD THIS PAGE

TABLE 3

Analysis of Variance by Teacher Subject Area

Change Orientation Scale

SOURCE	SUMS OF SQUARES	df	MS	F	p
Between Groups	980773.1	5	196154.562	3.215	.01
Within Groups	4392941.8	72	61013.08		
	5373714.00	77			

Subsequent Scheffé analyses found that the Pupil Personnel Services group was significantly more "change oriented" than all of the other groups. The mean of the Pupil Services group ranged from 322.42 to 400.54 points higher than all the other groups (all Scheffé F's were significant at the $p < .01$ or $p < .05$). No other significant differences were found suggesting that the most "innovative" group was Pupil Personnel Services with other groups scoring approximately the same on change orientation.

Preferred Incentive Scale

The internal consistency coefficient (alpha) for the combined Preferred Incentive Scales (Teacher Opinion Survey) was found to be .91. Table 4, on the next page, reports the means and standard deviations of the total group on the Preferred Incentive Scales. Each scale item is listed in rank order of the average preferred incentive of the total sample of teachers.

Correlated t tests were used to compare each pair of possible combinations of the ten items. Only four of the t tests were significant. Below is a summary of the item differences for the total group on average preferred incentive:

TABLE 4

PREFERRED INCENTIVE SCALES*

TEACHER OPINION SURVEY

(10 Incentive Scales) (N = 88)

	INCENTIVE ITEM	MEAN	S.D.	RANK
(a.)	How much project will help own students	2.49	1.98	1
(b.)	Conviction that curriculum needs changing	2.63	1.92	2
(c.)	Opportunity to have input into curriculum	3.23	1.90	3
(d.)	Opportunity to learn from university specialists	4.53	2.25	4
(e.)	Enjoy working with colleagues in small groups	5.08	2.37	5
(f.)	Released time	6.14	2.70	6
(g.)	Because asked by supervisor	6.16	2.28	7
(h.)	Amount of extra money for extra work	6.37	2.89	8
(i.)	Recognition, e.g., authorship of curriculum product(s)	7.52	2.40	9
(j.)	Recognition, e.g., name or picture in newspaper or newsletter	8.85	2.01	10

* 1 = Most important incentive
10 = Least important incentive

DO NOT TEAR THIS PAGE

Summary of Findings on Preferred Incentive Items Ratings

1. The two most important incentives for this group were (a) "How much project will help own students" and (b) "Conviction that the curriculum needs changing". The mean ratings for these two items were not significantly different from one another.

2. The two highest ranked items (a and b) were rated significantly higher than the third most important item, (c) "Opportunity to have input into the curriculum" ($p < .05$). The third most important item (c) was rated significantly higher than the fourth ranked item, (d) "Opportunity to learn from university professionals" ($p < .03$).

3. The fourth most important item (d), however, did not differ from the fifth most important item (e) "Enjoy working with colleagues in small groups". This item (e) was rated significantly higher than the sixth ranked item, (f), "Released Time" ($p < .01$). This item was not rated significantly higher than the next two items, (g) "Because asked by supervisor" and (h) "Amount of money for extra work".

4. Item (h), "Amount of money for extra work", was rated significantly higher than the ninth ranked item, (i) "Recognition, e.g., authorship of curriculum products" ($p < .01$).

5. The last two items (i and j) differed significantly from each other and from item (h).

6. It appears that on the average the total group prefers the following incentives in order to become involved in curriculum projects: (a) knowing that a project will be helpful to their sutdents and (b) holding the conviction that the curriculum is in need of change.

7. Conversely, the total group of teachers appears not to be motivated to become involved in curriculum projects by incentives which offer them "recognition" for their efforts.

A one-way analysis of variance was computed for each preferred incentive scale item to test for differences between sexes and among subject area groupings. No significant differences were found by subject areas. There were no significant sex differences found on the ten incentive scales, with one exception. On item (j) "Recognition, e.g., name or picture in newspaper or newsletter", females were significantly less motivated by this incentive than were males ($F = 3.997$, $p < .04$). However, this was a very low ranked item for both groups.

Innovators

It was hypothesized that teachers who were found to be "innovative" as measured by the change orientation scale, would differ from the less innovative teachers (less change-oriented) on preferred incentives as measured by the Preferred Incentive Scale. For the purposes of this pilot study, the upper third of the total group on the change orientation scale was labeled the "innovators". Those scoring in the lower third of the change orientation scale were labeled "least innovative". These two groups were compared to each other on each of the ten incentive scales (Teacher Opinion Survey) using *t* tests for independent means. No significant differences were found between the two groups on seven of the ten incentive scales. However, there were significant differences between the two groups on three incentive scales:

1. The innovators rated item (d) "Opportunity to learn from university specialists" significantly higher than the least innovative teachers ($t = 3.15$, $p < .003$).

2. The innovative teachers were significantly more likely to rate item (e) "Enjoy working with colleagues in small groups" as a more important incentive than the least innovative teachers ($t = 2.23$, $p < .03$).

3. Lastly, the innovative group was more likely to give lower importance ratings to (h) "Amount of money for extra work" ($t = 3.12$, $p < .003$).

From the findings of this pilot study, it appears that innovative teachers are more motivated to become involved in curriculum projects than less innovative teachers by being presented with opportunities to learn new information from university specialists. They are also more motivated than their less innovative counterparts by being given the opportunity to work in small groups. These findings have implications for curriculum development specialists planning in-service programs and curriculum projects, both from the point of view of how to attract innovative teachers to projects and how to structure curriculum teams. Moreover, the fact that the more innovative teachers are apparently less motivated by money than others is an important finding. These findings all warrant further study.

The findings also suggest that further study of the utility, reliability and validity of the two scales in this study to measure change orientation and motivation (preferred incentives) is in order.

DO NOT FILM THIS PAGE

APPENDIX A

1. Teacher Opinion Survey (Preferred Incentive Scales)*

2. Teacher Survey: Vocational/Career Education for Handicapped (Change Orientation Scale).

* Note: Permission to reprint the Teacher Opinion Scale in this document is granted by the authors. Investigators who wish to use this scale will be granted permission to do so at no cost, upon written request to authors.

CODE_____ GRADE LEVEL_____

SUBJECT/AREA_____ YEARS TEACHING EXPERIENCE_____

MALE_____ FEMALE_____

TEACHER OPINION SURVEY

Teachers become involved in curriculum projects for varying reasons. The statements below represent some suggested reasons for teacher involvement. Please assign a score from 1 to 10 to each item by placing an "X" in the appropriate position on the scale. Assume that the distance between each score (e.g., the distance between 3 and 4) is equal. The best procedure for scoring the items is to begin with the item that you consider most important. Score this item "1." Next locate the least important item and score this item "10." Continue this procedure until a score is assigned to each item.

Example:

Most Important Least Important

1 2 3 X 5 6 7 8 9 10

WHAT WOULD INFLUENCE YOUR DECISION?

	Most Important									Least Important
Released time.	1	2	3	4	5	6	7	8	9	10
Because asked by supervisor.	1	2	3	4	5	6	7	8	9	10
Conviction that the present curriculum needs changing.	1	2	3	4	5	6	7	8	9	10
Opportunity to learn from university specialists on project.	1	2	3	4	5	6	7	8	9	10
Opportunity to have input into curriculum.	1	2	3	4	5	6	7	8	9	10
Recognition, e.g., name or picture in newspaper or newsletter.	1	2	3	4	5	6	7	8	9	10
Recognition, e.g., authorship of curriculum product(s).	1	2	3	4	5	6	7	8	9	10
How much project will help own students.	1	2	3	4	5	6	7	8	9	10
Amount of extra money for extra work.	1	2	3	4	5	6	7	8	9	10
Enjoy working with colleagues in small groups.	1	2	3	4	5	6	7	8	9	10

COPYRIGHT© 1978 David C. Gardner and Grace Joely Cowan

Teaching Area_____ Code_____

Grade_____ Sex ____ M ____ F

Years Teaching____

Highest Degree____

TEACHER SURVEY

VOCATIONAL/CAREER EDUCATION FOR THE HANDICAPPED *

The following is a survey of your opinions regarding statements about vocational/career education for handicapped/special needs students. There are no right or wrong responses, so do not hesitate to mark the statements frankly. In answering each statement we want your personal opinion. We have tried to cover many differing and opposing points of view; you may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statement, you can be sure that many other people feel the same as you do. Please be sure you DO NOT OMIT ANY STATEMENT. Please place a slash through the line at the right of each statement at the point which indicates the degree to which you agree/disagree with the statement (e.g., _____/__).

	DISAGREE VERY MUCH		AGREE VERY MUCH
1. Schools can't do much to develop positive attitudes toward work.	0	50	100
2. We now have more vocational/career education programs than we need for the handicapped.	0	50	100
3. Vocational/career education can do little to alleviate the problems of handicapped people.	0	50	100
4. Students can benefit little from occupational education in the elementary grades.	0	50	100
5. I think there's no harm in starting occupational education in the elementary grades.	0	50	100
6. Early occupational education may stimulate a better attitude toward school work in later years.	0	50	100

* Adapted from E. B. Russell, Illinois Career Education Journal, Fall, 1975

VOCATIONAL/CAREER EDUCATION FOR HANDICAPPED:TEACHER SURVEY
Page 2

	DISAGREE VERY MUCH		AGREE VERY MUCH
7. Vocational teachers can make a real contribution to occupational education at the elementary level.	0	50	100
8. There is no need in the elementary curriculum for the addition of occupational education.	0	50	100
9. I find that individualized instruction using behavioral objectives is valuable in helping the student succeed.	0	50	100
10. I believe it is more important to work with the entire class than to spend a lot of time with individuals.	0	50	100
11. I accept the idea that individualized instruction using behavioral objectives allows students to experience success more often.	0	50	100
12. I regularly use behavioral objectives with individualized learning experiences to help my students develop to their potential.	0	50	100
13. As part of a teaching team I could spend more time developing creativity, responsibility, and habits of inquiry in students.	0	50	100
14. I teach my classes without assistance and discourage others from helping.	0	50	100

		DISAGREE VERY MUCH		AGREE VERY MUCH
15.	I would greatly dislike being a member of an interdisciplinary team.	0	50	100
16.	I uphold the interdisciplinary team teaching concept as permitting a natural exchange of ideas.	0	50	100
17.	I do not work well enough with others to make interdisciplinary team teaching work.	0	50	100
18.	I'm convinced that interdisciplinary team teaching is a waste of time.	0	50	100
19.	Use of interdisciplinary team teaching would allow me to put more varied content into my lessons.	0	50	100
20.	I say that interdisciplinary team teaching is asking too much of established teachers.	0	50	100

REFERENCES

Carifio, J. Assigning Students to career exploration programs by preference. Career Education Quarterly, 1976, 1, (1), 7-26.

Cowan, G. J. Developing curriculum modules for teaching technical vocabulary. Career Development for Exceptional Individuals. 1978, 1, (2), 106-109.

Gardner, D. C. and Cowan, G. J. Technical terms and special needs. School Shop, 1978, 37, (9), 38-39.

Guilford, J. P. and Fruchter, B. Fundamental statistics in psychology, New York, NY: McGraw-Hill, Inc., 1978.

Kerlinger, F. Foundations of behavioral research, New York, NY: Holt, Rinehart, Winston, Inc., 1973.

Russell, E. B. An instrument to measure the change orientation of teachers. Illinois Career Education Journal, 1975, 33, (1), 42-44.